

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 15, 2016

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending July 15, 2016

DNFSB Staff Activity: On Thursday, M.W. Dunlevy, R.L. Jackson, and R.V. Kazban conducted a teleconference with LANL and NNSA Field Office personnel to discuss the safety design strategy for the Plutonium Facility Equipment Installation Phase 1 subproject.

Area G–Inappropriately Remediated Nitrate Salts (RNS): On Thursday, LANL, EM, and NNSA personnel held the first of a series of in-process reviews of safety basis documents needed to support RNS treatment. The goal of these reviews is to foster timely feedback from the various federal review personnel in support of achieving expeditious treatment—development and approval of safety basis documents is nearing the critical path for treatment. This first review meeting focused on the Area G safety basis changes necessary to move the RNS waste drums from the Dome 375 Permacon to the vehicle that will be used to transport the drums to the Waste Characterization Reduction and Repackaging Facility (WCRRF) for processing. Of interest, LANL and NNSA Field Office personnel presented an alternative approach that pursues defending certain RNS accidents as beyond extremely unlikely. The review team agreed to consider the viability of this approach next week. The Site Representatives note that additional technical justification for making this assertion will likely be needed. In particular, the NNSA Cognizant Secretarial Officer acknowledged in the most recent safety basis approval letter that installation of pressure relief devices will significantly reduce the likelihood of a self-initiated thermal runaway; however, he ultimately concluded that the risks associated with the RNS wastes will not be completely eliminated (see 4/29/16 weekly). Additional in-process reviews are planned for the coming weeks to discuss safety basis changes for Area G, onsite transportation and WCRRF. LANL personnel indicated they remain on target for document submittal by August 15, 2016. DOE personnel expect to take an additional two weeks to review and approve the documents.

Plutonium Facility–Criticality Safety: On Wednesday, Plutonium Facility management issued a shift order change to improve performance during nuclear material movements within the facility. Management issued this change as a temporary corrective action for recent criticality safety process deviations that occurred during two separate material moves (see 7/8/16 and 6/24/16 weeklies). The change incorporates two newly developed tools to aid operators, including a material move planning tool and a nuclear criticality safety verification checklist. In addition to directing operators to use these tools for material move planning, the shift order change requires the first line manager to be informed prior to material movements being performed. These changes are in addition to an earlier standing order to utilize the material move procedure as Use Every Time. Facility personnel are currently revising this material movement procedure to more permanently implement these temporary corrective actions, as well as to address issues that were identified by a causal analysis of these process deviations.

Weapons Engineering Tritium Facility (WETF)–Safety Basis: This week, facility personnel completed an Implementation Verification Review for the most recently approved revision of the WETF Documented Safety Analysis and Technical Safety Requirements. Of significance, this safety basis revision reduces the material-at-risk allowed in the facility to 60 percent of the current limit and reduces the consequences of the worst case postulated accident scenario to below the DOE Evaluation Guideline (see 5/13/16 weekly).